

## REMARKS/ARGUMENTS

Claims 2-4, 6-9, 11-16 and 18-19 have been resubmitted. Claims 1, 5, 10 and 17 are currently amended. Claims 20-38 have been withdrawn without prejudice in an election filed on July 13, 2007.

The Examiner rejected claims 1, 2 and 4 under 35 U.S.C. 102(b) as being anticipated by Michalakos (US 6,503,462). The Examiner also rejected Claims 1-14, and 16-19 under 35 U.S.C. Section 103(a) as being unpatentable over Teriu et al. (US 5,187,137) in view of Sakakibara (JP 03-151046 A) and Mirowsky et al. (US 2003/0150222). Claim 15 was rejected under 35 U.S.C. Section 103(a) as being unpatentable over Teriu et al., Sakakibara (JP 03-151046 A) and Mirowsky et al. and further in view of Thomson et al. (US 4,967,565)).

### Examiner Interview

On September 19, 2007 applicants' attorney engaged in a telephone interview with the Examiner. The principal matter presented to the Examiner was that the present invention contemplates that there should be **no inclusion** of transition metals in a catalytic composition. It has been discovered that when titania is employed as a substrate, transition metals are not required. When transition metals are precluded, formation of undesirable sulfates is avoided. This provides an ozone removal apparatus with a particularly high longevity.

Claim limitations were proposed which would define the invention as ozone removal apparatus in which transition metal such as Ni (nickel) and Mn (magnesium) and their respective compounds were expressly precluded from a catalytic composition employed in the apparatus.

The Examiner tentatively concurred that such a limitation would distinguish the present invention from the cited prior art. His concurrence was conditioned on the premise that a further examination would not find other references that disclosed the novel and unobvious concepts of the present invention.

#### Claim Amendments

Claims 1, 10 and 17 are amended to define that a catalytic composition disposed on a titania catalyst support "is free of transition metal which is susceptible to sulfate formation and said catalytic composition". Claim 5 is amended to define that the catalytic composition "contains no Ni(nickel) or Mn(manganese) or compounds of Ni or Mn". Support for these feature is found in paragraphs [0006], [0012], [0036], [0039] and [0041] of the originally filed specification.

#### Michalakos (US 6,503,462)

Michalakos discloses an air cleaning system that employs catalytic compositions to eliminate VOC's and ozone from air. The catalytic compositions described in Michalakos include transition metals (col. 3 lines 17 and 23).

The present invention as defined in independent claim 1 expressly defines a heretofore unrecognized combination of material for use as a catalytic composition. This claim defines a catalytic composition comprised of a silver-based component and a palladium-based component. In the Michalakos reference, such a catalytic composition is described as one that requires use of a transition metal. But in the present invention, it has been recognized that if

tania is employed as a substrate, as defined in claim 1, then a transition metal is not required for proper functioning of the catalytic composition. Consequently, the catalytic composition may be made "free of transition metals which may produce undesirable sulfates" when the catalytic composition is supported on a titania substrate.

It may be seen that that Michalakos does not disclose or even suggest the present invention as defined in claims 1 and its dependent claims 2 and 4. Applicant therefore respectfully request that Michalakos be withdrawn as a reference against claims 1, 2 and 4.

Teriu et al. (US 5,187,137)

Teriu et al. discloses an ozone decomposing catalyst that is palladium based. Teriu et al. expressly teaches that Mn oxide is an included ingredient of the catalyst. (Col. 3 lines 41-42).

As described above with respect to claim 1, claims 10 and 17 are also amended to define that a catalytic composition that is disposed on a titania catalyst support "is free of transition metal which is susceptible to sulfate formation and said catalytic composition". Claim 5 is amended to define that the catalytic composition "contains no Ni(nickel) or Mn(manganese) or compounds of Ni or Mn".

As described in the discussion of Michalakos, the inventions defined independent claims 1, 10 and 17 are not taught or suggested in way by Teriu et al. Nor is there a teaching of the inventions defined in any of the claims that are dependent on claims 1, 10 and 17. Applicant therefore respectfully request that

Terui et al. be withdrawn as a reference against claims 1-19 either by itself or in combination with any of the other cited references.

Sakakibara (JP 03-151046 A)

Sakakibara discloses a palladium and silver catalytic composition "molded on a granular article of  $\text{MnO}_2$ .

As discussed above with respect to both Michalakos and Terui et al., Sakakibara teaches a use of Mn or one of its compounds in a catalytic composition. Presence of  $\text{MnO}_2$  in the catalytic composition may produce sulfates when air containing sulfur compounds is passed over the composition.

The inventions defined independent claims 1, 10 and 17 are not taught or suggested in way by Sakakibara. Nor is there a teaching of the inventions defined in any of the claims that are dependent on claims 1, 10 and 17. Applicant therefore respectfully request that Sakakibara be withdrawn as a reference against claims 1-19 either by itself or in combination with any of the other cited references.

Mirowsky et al. (US 2003/0150222)

Mirowsky et al. discloses merely that an ionic oxygen generator may be useful in the context of treating air for airplanes. Mirowsky et al. does not teach or suggest the use or composition of any catalytic components.

The inventions defined independent claims 1, 10 and 17 are not taught or suggested in way by Mirowsky et al. Nor is there a teaching of the inventions defined in any of the claims that are dependent on claims 1, 10 and 17.

Applicant therefore respectfully request that Mirowsky et al. be withdrawn as a reference against claims 1-19 either by itself or in combination with any of the other cited references.

Thomson et al. (US 4,967,565)

Thomson et al. discloses merely that bleed air may be used in an aircraft Environmental control system (ECS). In that regard Mirowsky does not teach or suggest the invention now defined in amended 10 on which claim 15 is dependent. Applicants therefore respectfully request that Thomson et al. be withdrawn as a reference against claim 15 either by itself or in combination with any of the other cited references.

CONCLUSION

Applicant appreciates the opportunity extended by the Examiner to discuss issues relating to rejected claims in a telephone interview.

Reconsideration and withdrawal of the Office Action with respect to Claims 1-19 is requested. Allowance of claims 1-19 is requested.

In the event the examiner wishes to discuss any aspect of this response, please contact the attorney at the telephone number identified below.

Respectfully submitted,

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